

**Trade name:** EOS StainlessSteel 254

**Product no.:** 9030-0007

**Current version :** 2.0.0, issued: 14.06.2022

**Region:** GB

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

Trade name

**EOS StainlessSteel 254**

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Relevant identified uses of the substance or mixture**

StainlessSteel powder for DMLS process in EOS M systems

**Uses advised against**

No data available.

### 1.3 Details of the supplier of the safety data sheet

**Address**

Electro Optical Systems Finland Oy  
Lemminkäisenkatu 36  
20520 Turku  
FINLAND

Telephone no. +358 (0) 20 765 9144 / 9147

Fax no. +358 (0) 20 765 9141

**Information provided by / telephone**

+49 (0) 89 / 893 36 - 0

**Advice on Safety Data Sheet**

MSDSInfo@eos.info

### 1.4 Emergency telephone number

+49 (0) 89 / 893 36 - 0 (8 am - 5 pm)

+49 (0) 89 / 893 36 - 151 (Mo - Thu: 9 am - 12 pm & 1 - 6 pm; Fr: 1 - 4 pm) (CET)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Classification in accordance with Regulation (EC) No 1272/2008 (CLP)**

Aquatic Chronic 3; H412

Carc. 2; H351

Skin Sens. 1; H317

STOT RE 1; H372

**Classification information**

This product is assessed and classified using the methods and criteria below referred to in Article 9 of Regulation (EC) n° 1272/2008:

Physical hazards: determined through assessment data based on the methods or standards referred to in part 2 of Annex I to CLP

Health hazards and environmental hazards: determined through toxicological and ecotoxicological assessment data based on the methods or standards referred to in Part 3, 4 and 5 of Annex I to CLP.

### 2.2 Label elements

**Labelling according to Regulation (EC) No 1272/2008 (CLP Regulation)**

**Hazard pictograms**



GHS07



GHS08

**Signal word**

Danger

**Hazardous component(s) to be indicated on label:**

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nickel powder; [particle diameter &lt; 1 mm]

**Hazard statement(s)**

H317 May cause an allergic skin reaction.  
 H351 Suspected of causing cancer.  
 H372 Causes damage to organs through prolonged or repeated exposure.  
 H412 Harmful to aquatic life with long lasting effects.

**Precautionary statement(s)**

P201 Obtain special instructions before use.  
 P260 Do not breathe dust/fume/spray.  
 P273 Avoid release to the environment.  
 P280 Wear protective gloves/protective clothing/eye protection.  
 P308+P313 IF exposed or concerned: Get medical advice/attention.  
 P501 Dispose of contents/container to a facility in accordance with local and national regulations.

**2.3 Other hazards**

PBT assessment

The study does not need to be conducted according to Annex XIII of Regulation (EC) 1907/2006 (REACH).

vPvB assessment

The study does not need to be conducted according to Annex XIII of Regulation (EC) 1907/2006 (REACH).

**SECTION 3: Composition/information on ingredients****3.1 Substances**

Not applicable. The product is not a substance.

**3.2 Mixtures****Hazardous ingredients**

| No | Substance name   | Additional information  |                        |
|----|--|---|------------------------|
|    | CAS / EC / Index / REACH no                                | Classification (EC) 1272/2008 (CLP)   | Concentration %        |
| 1  | <b>iron</b>  |   |                        |
|    | 7439-89-6<br>231-096-4<br>-<br>01-2119462838-24            | -   | 50.00 - 52.00 wt%      |
| 2  | <b>chromium</b>  |   |                        |
|    | 7440-47-3<br>231-157-5<br>-<br>01-2119485652-31            | -   | >= 10.00 - < 25.00 wt% |
| 3  | <b>nickel powder; [particle diameter &lt; 1 mm]</b>        |   |                        |
|    | 7440-02-0<br>231-111-4<br>028-002-01-4<br>01-2119438727-29 | Aquatic Chronic 3; H412<br>Carc. 2; H351<br>Skin Sens. 1; H317<br>STOT RE 1; H372** | >= 10.00 - < 25.00 wt% |
| 4  | <b>manganese</b>   |   |                        |
|    | 7439-96-5<br>231-105-1<br>-<br>01-2119449803-34            | -   | < 2.50 wt%             |
| 5  | <b>copper</b>  |   |                        |
|    | 7440-50-8<br>231-159-6<br>-<br>01-2119480154-42            | Aquatic Acute 1; H400<br>Aquatic Chronic 2; H411                                    | < 2.50 wt%             |

Full Text for all H-phrases and EUH-phrases: pls. see section 16

(\*, \*\*, \*\*\*, \*\*\*\*) Detailed explanation pls. refer to CLP regulation No. 1272/2008, annex VI, 1.2

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## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General information

In case of accident or if you feel unwell, seek medical advice immediately. Remove contaminated clothing and shoes immediately, and launder thoroughly before reusing.

#### After inhalation

Remove affected person from the immediate area. Ensure supply of fresh air. If breathing has stopped, assist ventilation with a mechanical device. Take medical treatment.

#### After skin contact

When in contact with the skin, clean with soap and water. Consult a doctor if skin irritation persists.

#### After eye contact

Remove contact lenses. Rinse eye thoroughly under running water keeping eyelids wide open and protecting the unaffected eye (at least 10 to 15 minutes). Get medical attention if pain still persists.

#### After ingestion

Rinse the mouth thoroughly with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor immediately.

### 4.2 Most important symptoms and effects, both acute and delayed

No data available.

### 4.3 Indication of any immediate medical attention and special treatment needed

No data available.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

special powder against burning metal

#### Unsuitable extinguishing media

Water; Carbon dioxide; ABC powder; Foam

### 5.2 Special hazards arising from the substance or mixture

In the event of fire, the following can be released: Metal oxides

### 5.3 Advice for firefighters

Use self-contained breathing apparatus. Wear protective clothing. Containers close to fire should be transferred to a safe place. Run-off water from fire fighting must not be discharged into drains or enter surface water.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

#### For non-emergency personnel

Refer to protective measures listed in sections 7 and 8. Ensure adequate ventilation. Avoid dust formation. Avoid contact with skin, eyes and clothing. Keep away from ignition sources.

#### For emergency responders

Personal protective equipment (PPE) - see section 8.

### 6.2 Environmental precautions

Do not discharge into the drains/surface waters/groundwater. Do not discharge into the subsoil/soil.

### 6.3 Methods and material for containment and cleaning up

Small quantities of spilled material may be collected dry or wet. In large quantities: Take up mechanically. When aspirators are used, make sure that they are equipped with efficient dust filters (HEPA).

### 6.4 Reference to other sections

No data available.

## SECTION 7: Handling and storage

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## 7.1 Precautions for safe handling

### Advice on safe handling

Risks inherent to handling the product must be minimised by applying the appropriate protective and preventive measures. Working processes should - so far as possible, according to the state of the art - be designed to rule out bodily contact or the release of hazardous substances. Avoid contact with skin and eyes. Avoid dust formation.

### General protective and hygiene measures

Do not eat, drink or smoke during work time. Keep away from foodstuffs and beverages. Wash hands before breaks and after work. Avoid contact with eyes and skin. Do not inhale dust. Remove soiled or soaked clothing immediately.

### Advice on protection against fire and explosion

Dust can form an explosive mixture with air. Take precautionary measures against electrostatic loading (earthing necessary during loading operations). Keep away from sources of ignition - refrain from smoking.

## 7.2 Conditions for safe storage, including any incompatibilities

### Technical measures and storage conditions

Keep container tightly closed and dry in a cool, well-ventilated place. Protect against mechanical damage.

### Requirements for storage rooms and vessels

Containers which are opened must be carefully closed and kept upright to prevent leakage. Always keep in containers of same material as the original.

### Incompatible products

Substances to be avoided, see section 10.

## 7.3 Specific end use(s)

No data available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limit values

| No   | Substance name                            | CAS no.  | EC no.            |
|--|---|--|-------------------|
| 1  | chromium                                  | 7440-47-3  | 231-157-5         |
| <b>List of approved workplace exposure limits (WELs) / EH40</b>  |   |  |                   |
| Chromium   |   |  |                   |
|  | WEL long-term (8-hr TWA reference period) | 0.5  | mg/m <sup>3</sup> |
| <b>2006/15/EC</b>  |   |  |                   |
| Chromium Metal, Inorganic Chromium (II) Compounds and Inorganic Chromium (III) Compounds (insoluble)   |   |  |                   |
|  | WEL long-term (8-hr TWA reference period) | 2  | mg/m <sup>3</sup> |
| 2  | nickel powder; [particle diameter < 1 mm] | 7440-02-0  | 231-111-4         |
| <b>List of approved workplace exposure limits (WELs) / EH40</b>  |   |  |                   |
| Nickel & its inorganic compounds (except nickel tetracarbonyl): water soluble nickel compounds (as Ni) |   |  |                   |
|  | WEL long-term (8-hr TWA reference period) | 0.1  | mg/m <sup>3</sup> |
|  | Comments                                  | Sk, Carc (nickel oxides and sulphides) Sen (nickel sulphate) |                   |
| <b>List of approved workplace exposure limits (WELs) / EH40</b>  |   |  |                   |
| Nickel & water insoluble compounds nickel compounds (as Ni)  |   |  |                   |
|  | WEL long-term (8-hr TWA reference period) | 0.5  | mg/m <sup>3</sup> |
|  | Comments                                  | Sk, Carc (nickel oxides and sulphides) Sen (nickel sulphate) |                   |
| 3  | manganese                                 | 7439-96-5  | 231-105-1         |
| <b>2017/164/EU</b>   |   |  |                   |
| Manganese and inorganic manganese compounds (as manganese)   |   |  |                   |
|  | WEL long-term (8-hr TWA reference period) | 0,2 (Inhal)  | mg/m <sup>3</sup> |
| <b>2017/164/EU</b>   |   |  |                   |
| Manganese and inorganic manganese compounds (as manganese)   |   |  |                   |
|  | WEL long-term (8-hr TWA reference period) | 0,05 (Resp)  | mg/m <sup>3</sup> |
| <b>List of approved workplace exposure limits (WELs) / EH40</b>  |   |  |                   |
| Manganese and its inorganic compounds (as Mn) Inhalable fraction                                       |   |  |                   |

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|   |   |                  |                   |
|---|---|------------------|-------------------|
|   | WEL long-term (8-hr TWA reference period) | 0.2              | mg/m <sup>3</sup> |
| <b>List of approved workplace exposure limits (WELs) / EH40</b>   |   |                  |                   |
| Manganese and its inorganic compounds (as Mn) Respirable fraction |   |                  |                   |
|   | WEL long-term (8-hr TWA reference period) | 0.05             | mg/m <sup>3</sup> |
| <b>4</b>  | <b>copper</b>                             | <b>7440-50-8</b> | <b>231-159-6</b>  |
| <b>List of approved workplace exposure limits (WELs) / EH40</b>   |   |                  |                   |
| Copper  |   |                  |                   |
| fume  |   |                  |                   |
|   | WEL long-term (8-hr TWA reference period) | 0.2              | mg/m <sup>3</sup> |
| <b>List of approved workplace exposure limits (WELs) / EH40</b>   |   |                  |                   |
| Copper  |   |                  |                   |
| dusts and mists   |   |                  |                   |
| Cu  |   |                  |                   |
|   | WEL short-term (15 min reference period)  | 2                | mg/m <sup>3</sup> |
|   | WEL long-term (8-hr TWA reference period) | 1                | mg/m <sup>3</sup> |

### DNEL, DMEL and PNEC values

#### DNEL values (worker)

| No | Substance name                            |                     |          | CAS / EC no            |                    |
|----|---|---------------------|----------|------------------------|--------------------|
|    | Route of exposure                         | Exposure time       | Effect   | Value                  |                    |
| 1  | nickel powder; [particle diameter < 1 mm] |                     |          | 7440-02-0<br>231-111-4 |                    |
|    | dermal                                    | Long term (chronic) | local    | 0.035                  | mg/cm <sup>2</sup> |
|    | inhalative                                | Long term (chronic) | systemic | 0.05                   | mg/m <sup>3</sup>  |
|    | inhalative                                | Long term (chronic) | local    | 0.05                   | mg/m <sup>3</sup>  |
|    | inhalative                                | Short term (acute)  | local    | 11.9                   | mg/m <sup>3</sup>  |
| 2  | copper                                    |                     |          | 7440-50-8<br>231-159-6 |                    |
|    | dermal                                    | Short term (acute)  | systemic | 273                    | mg/kg/day          |
|    | dermal                                    | Long term (chronic) | systemic | 137                    | mg/kg/day          |
|    | inhalative                                | Long term (chronic) | local    | 1                      | mg/m <sup>3</sup>  |
|    | inhalative                                | Short term (acute)  | local    | 1                      | mg/m <sup>3</sup>  |

#### DNEL value (consumer)

| No | Substance name                            |                     |          | CAS / EC no            |                    |
|----|---|---------------------|----------|------------------------|--------------------|
|    | Route of exposure                         | Exposure time       | Effect   | Value                  |                    |
| 1  | nickel powder; [particle diameter < 1 mm] |                     |          | 7440-02-0<br>231-111-4 |                    |
|    | oral                                      | Long term (chronic) | systemic | 0.011                  | mg/kg/day          |
|    | oral                                      | Short term (acute)  | systemic | 0.37                   | mg/kg/day          |
|    | dermal                                    | Long term (chronic) | local    | 0.035                  | mg/cm <sup>2</sup> |
|    | inhalative                                | Long term (chronic) | systemic | 60                     | ng/m <sup>3</sup>  |
|    | inhalative                                | Long term (chronic) | local    | 60                     | ng/m <sup>3</sup>  |
|    | inhalative                                | Short term (acute)  | local    | 0.8                    | mg/m <sup>3</sup>  |
| 2  | copper                                    |                     |          | 7440-50-8<br>231-159-6 |                    |
|    | oral                                      | Long term (chronic) | systemic | 0.041                  | mg/kg/day          |
|    | dermal                                    | Short term (acute)  | systemic | 273                    | mg/kg/day          |
|    | dermal                                    | Long term (chronic) | systemic | 137                    | mg/kg/day          |
|    | inhalative                                | Short term (acute)  | local    | 1                      | mg/m <sup>3</sup>  |
|    | inhalative                                | Long term (chronic) | local    | 1                      | mg/m <sup>3</sup>  |

#### PNEC values

| No | Substance name                            |              | CAS / EC no            |      |
|----|---|--------------|------------------------|------|
|    | ecological compartment                    | Type         | Value                  |      |
| 1  | nickel powder; [particle diameter < 1 mm] |              | 7440-02-0<br>231-111-4 |      |
|    | water                                     | fresh water  | 7.1                    | µg/L |
|    | water                                     | marine water | 8.6                    | µg/L |

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|   |                        |                       |                                      |                  |
|---|------------------------|-----------------------|--------------------------------------|------------------|
|   | water                  | fresh water sediment  | 109                                  | mg/kg dry weight |
|   | water                  | marine water sediment | 109                                  | mg/kg dry weight |
|   | soil                   | -                     | 29.9                                 | mg/kg dry weight |
|   | sewage treatment plant | -                     | 0.33                                 | mg/L             |
|   | secondary poisoning    | -                     | 0.12                                 | mg/kg food       |
| 2 | <b>copper</b>          |                       | <b>7440-50-8</b><br><b>231-159-6</b> |                  |
|   | water                  | fresh water           | 7.8                                  | µg/L             |
|   | water                  | marine water          | 5.2                                  | µg/L             |
|   | water                  | fresh water sediment  | 87                                   | mg/kg            |
|   | water                  | marine water sediment | 676                                  | mg/kg            |
|   | soil                   | -                     | 65                                   | mg/kg            |
|   | sewage treatment plant | -                     | 230                                  | µg/L             |

## 8.2 Exposure controls

### Appropriate engineering controls

Provide adequate ventilation. This should be achieved by the use of local exhaust ventilation and good general extraction.

### Personal protective equipment

#### Respiratory protection

If workplace exposure limits are exceeded, a respiration protection approved for this particular job must be worn. In case of dust formation, take appropriate measures for breathing protection in the event that workplace threshold values are not specified. Respirator with particulate filter (filter cat. P 3)

#### Eye / face protection

Safety glasses with side protection shield (EN 166)

#### Hand protection

Sufficient protection is given wearing suitable protective gloves checked according to i.e. EN 374, in the event of risk of skin contact with the product. Before use, the protective gloves should be tested in any case for its specific work-station suitability (i.e. mechanical resistance, product compatibility and antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. Protective gloves shall be replaced immediately when physically damaged or worn. Design operations thus to avoid permanent use of protective gloves.

|                      |                |      |     |
|----------------------|----------------|------|-----|
| Appropriate Material | nitrile rubber |      |     |
| Material thickness   | >=             | 0.35 | mm  |
| Breakthrough time    | >              | 480  | min |

#### Other

Wear fully closed, flame retardant clothing. Closed ESD safety footwear (ESD according to EN 61340-4-3 or equivalent).

#### Environmental exposure controls

No data available.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

|                             |
|-----------------------------|
| <b>State of aggregation</b> |
| solid                       |
| <b>Form/Colour</b>          |
| Powder                      |
| grey                        |
| <b>Odour</b>                |
| odourless                   |
| <b>pH value</b>             |
| No data available           |

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**Boiling point / boiling range**

No data available

**Melting point/freezing point**

|       |      |   |      |    |
|-------|------|---|------|----|
| Value | 1440 | - | 1500 | °C |
|-------|------|---|------|----|

**Decomposition temperature**

No data available

**Flash point**

no data available

**Ignition temperature**

No data available

**Explosive properties**

Dust may form explosive mixture in air.

**Flammability**

No data available

**Lower explosion limit**

Not applicable

**Upper explosion limit**

Not applicable

**Vapour pressure**

No data available

**Relative vapour density**

No data available

**Relative density**

No data available

**Density**

|       |     |   |     |                   |
|-------|-----|---|-----|-------------------|
| Value | 3.6 | - | 4.3 | g/cm <sup>3</sup> |
|-------|-----|---|-----|-------------------|

**Solubility in water**

|          |           |
|----------|-----------|
| Comments | insoluble |
|----------|-----------|

**Solubility**

No data available

**Partition coefficient n-octanol/water (log value)**

No data available

**Kinematic viscosity**

No data available

**Particle characteristics**

Particle size distribution: 17 -56 µm

**9.2 Other information****Other information**

No data available.

**SECTION 10: Stability and reactivity****10.1 Reactivity**

No data available.

**10.2 Chemical stability**

Stable under recommended storage and handling conditions (See section 7).

**10.3 Possibility of hazardous reactions**

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Possible hydrogen formation upon contact with acids.

**10.4 Conditions to avoid**

Heat, naked flames and other ignition sources. Spontaneously inflammable when finely dispersed. Hydrogen gas is released upon contact with mineral acids and may form explosive compounds with air.

**10.5 Incompatible materials**

Acids; Oxidizing agents

**10.6 Hazardous decomposition products**

In case of fire: see section 5.

**SECTION 11: Toxicological information****11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**

| Acute oral toxicity |   |           |                  |
|---------------------|---|-----------|------------------|
| No                  | Substance name                            | CAS no.   | EC no.           |
| 1                   | nickel powder; [particle diameter < 1 mm] | 7440-02-0 | 231-111-4        |
| LD50                |   | > 9000    | mg/kg bodyweight |
| Species             | rat                                       |           |                  |
| Method              | OECD 401                                  |           |                  |
| Source              | ECHA                                      |           |                  |

| Acute dermal toxicity |  |  |  |
|-----------------------|--|--|--|
| No data available     |  |  |  |

| Acute inhalational toxicity |  |  |  |
|-----------------------------|--|--|--|
| No data available           |  |  |  |

| Skin corrosion/irritation |   |           |           |
|---------------------------|---|-----------|-----------|
| No                        | Substance name                            | CAS no.   | EC no.    |
| 1                         | nickel powder; [particle diameter < 1 mm] | 7440-02-0 | 231-111-4 |
| Species                   | rabbit                                    |           |           |
| Method                    | OECD 404                                  |           |           |
| Source                    | ECHA                                      |           |           |
| Evaluation                | non-irritant                              |           |           |

| Serious eye damage/irritation |   |           |           |
|-------------------------------|---|-----------|-----------|
| No                            | Substance name                            | CAS no.   | EC no.    |
| 1                             | nickel powder; [particle diameter < 1 mm] | 7440-02-0 | 231-111-4 |
| Species                       | rabbit                                    |           |           |
| Method                        | OECD 405                                  |           |           |
| Source                        | ECHA                                      |           |           |
| Evaluation                    | non-irritant                              |           |           |

| Respiratory or skin sensitisation |   |           |           |
|-----------------------------------|---|-----------|-----------|
| No                                | Substance name  | CAS no.   | EC no.    |
| 1                                 | nickel powder; [particle diameter < 1 mm]                     | 7440-02-0 | 231-111-4 |
| Route of exposure                 | Skin  |           |           |
| Species                           | Human   |           |           |
| Source                            | Manufacturer  |           |           |
| Evaluation                        | sensitizing   |           |           |
| Evaluation/classification         | Based on available data, the classification criteria are met. |           |           |

| Germ cell mutagenicity |  |  |  |
|------------------------|--|--|--|
| No data available      |  |  |  |

| Reproduction toxicity |  |  |  |
|-----------------------|--|--|--|
| No data available     |  |  |  |

| Carcinogenicity   |  |  |  |
|-------------------|--|--|--|
| No data available |  |  |  |

| STOT - single exposure |  |  |  |
|------------------------|--|--|--|
|                        |  |  |  |



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No data available

**STOT - repeated exposure**

| No                        | Substance name                            | CAS no.   | EC no.    |
|---------------------------|---|---|-----------|
| 1                         | nickel powder; [particle diameter < 1 mm] | 7440-02-0   | 231-111-4 |
| Route of exposure         |   | oral  |           |
| NOAEL                     |   | 2.2   | mg/kg     |
| Species                   |   | rat   |           |
| Method                    |   | OECD 451  |           |
| Source                    |   | Manufacturer  |           |
| Evaluation/classification |   | Based on available data, the classification criteria are met. |           |

**Aspiration hazard**

No data available

**Symptoms related to the physical, chemical and toxicological characteristics**

Eye contact may cause mechanical irritation through dust particles. Skin contact may cause mechanical irritation through dust particles.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

Inhalation of dusts may irritate the respiratory tract. Danger of acute health hazards by longer exposure. Possibility of sensitisation through skin contact.

**11.2 Information on other hazards****Endocrine disrupting properties**

No data available.

**Other information**

No data available.

**SECTION 12: Ecological information****12.1 Toxicity**

| <b>Toxicity to fish (acute)</b> |                |                                     |           |
|---------------------------------|----------------|-------------------------------------|-----------|
| No                              | Substance name | CAS no.                             | EC no.    |
| 1                               | copper         | 7440-50-8                           | 231-159-6 |
| LC50                            |                | 0.035                               | mg/l      |
| Duration of exposure            |                | 96                                  | h         |
| Species                         |                | Danio rerio                         |           |
| Method                          |                | ISO TC 147/SC 5/WG3 (secretariat 6) |           |
| Source                          |                | ECHA / Read across                  |           |

| <b>Toxicity to fish (chronic)</b> |   |                       |           |
|-----------------------------------|---|-----------------------|-----------|
| No                                | Substance name                            | CAS no.               | EC no.    |
| 1                                 | nickel powder; [particle diameter < 1 mm] | 7440-02-0             | 231-111-4 |
| NOEC                              |   | 21.7                  | mg/l      |
| Duration of exposure              |   | 28                    | day(s)    |
| Species                           |   | Cyprinodon variegatus |           |
| Method                            |   | ASTM 2004, APHA 1998  |           |
| Source                            |   | ECHA                  |           |
| 2                                 | copper                                    | 7440-50-8             | 231-159-6 |
| NOEC                              |   | 0.023                 | mg/l      |
| Duration of exposure              |   | 7                     | day(s)    |
| Species                           |   | Pimephales promelas   |           |
| Method                            |   | OECD 204              |           |
| Source                            |   | ECHA                  |           |

| <b>Toxicity to Daphnia (acute)</b> |                |           |              |
|------------------------------------|----------------|-----------|--------------|
| No                                 | Substance name | CAS no.   | EC no.       |
| 1                                  | copper         | 7440-50-8 | 231-159-6    |
| EC50                               |                | 0.034     | - 0.792 mg/l |
| Duration of exposure               |                | 48        | h            |

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|         |               |
|---------|---------------|
| Species | Daphnia magna |
| Method  | OECD 202      |
| Source  | ECHA          |

| Toxicity to Daphnia (chronic) |   |           |           |
|-------------------------------|---|-----------|-----------|
| No                            | Substance name                            | CAS no.   | EC no.    |
| 1                             | nickel powder; [particle diameter < 1 mm] | 7440-02-0 | 231-111-4 |
| NOEC                          |   | 152.6     | µg/l      |
| Duration of exposure          |   | 48        | h         |
| Species                       | Dendroaster excentricus                   |           |           |
| Method                        | ASTM E1563-95                             |           |           |
| Source                        | ECHA                                      |           |           |
| 2                             | copper                                    | 7440-50-8 | 231-159-6 |
| NOEC                          |   | 0.032     | mg/l      |
| Duration of exposure          |   | 7         | day(s)    |
| Species                       | Daphnia magna                             |           |           |
| Method                        | OECD 211                                  |           |           |

| Toxicity to algae (acute) |   |           |           |
|---------------------------|---|-----------|-----------|
| No                        | Substance name                            | CAS no.   | EC no.    |
| 1                         | nickel powder; [particle diameter < 1 mm] | 7440-02-0 | 231-111-4 |
| EC50                      |   | >         | 81.5      |
| Duration of exposure      |   |           | 72        |
| Species                   | Pseudokirchneriella subcapitata           |           | µg/l      |
| Method                    | OECD 201                                  |           | h         |
| Source                    | ECHA                                      |           |           |

| Toxicity to algae (chronic) |  |
|-----------------------------|--|
| No data available           |  |

| Bacteria toxicity |  |
|-------------------|--|
| No data available |  |

**12.2 Persistence and degradability**

No data available.

**12.3 Bioaccumulative potential**

No data available.

**12.4 Mobility in soil**

No data available.

**12.5 Results of PBT and vPvB assessment**

| Results of PBT and vPvB assessment |   |
|------------------------------------|---|
| PBT assessment                     | The study does not need to be conducted according to Annex XIII of Regulation (EC) 1907/2006 (REACH). |
| vPvB assessment                    | The study does not need to be conducted according to Annex XIII of Regulation (EC) 1907/2006 (REACH). |

**12.6 Endocrine disrupting properties**

No data available.

**12.7 Other adverse effects**

No data available.

**12.8 Other information**

| Other information   |  |
|---|--|
| The product should not be allowed to enter drains or water courses. |  |
| Ecological data are not available.                                  |  |

**SECTION 13: Disposal considerations****13.1 Waste treatment methods**

Product

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Allocation of a waste code number, according to the European Waste Catalogue, should be carried out in agreement with the regional waste disposal company.

**Packaging**

Residues must be removed from packaging and when emptied completely disposed of in accordance with the regulations for waste removal. Incompletely emptied packaging must be disposed of in the form of disposal specified by the regional disposer.

## SECTION 14: Transport information

### 14.1 Transport ADR/RID/ADN

The product is not subject to ADR/RID/ADN regulations.

### 14.2 Transport IMDG

The product is not subject to IMDG regulations.

### 14.3 Transport ICAO-TI / IATA

The product is not subject to ICAO-TI / IATA regulations.

### 14.4 Other information

No data available.

### 14.5 Environmental hazards

Information on environmental hazards, if relevant, please see 14.1 - 14.3.

### 14.6 Special precautions for user

No data available.

### 14.7 Maritime transport in bulk according to IMO instruments

Not relevant

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

#### EU regulations

#### **Regulation (EC) No 1907/2006 (REACH) Annex XIV (List of substances subject to authorisation)**

According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substances considered as substances requiring authorisation as listed on Annex XIV of the REACH regulation (EC) 1907/2006.

#### **REACH candidate list of substances of very high concern (SVHC) for authorisation**

According to available data and the information provided by preliminary suppliers, the product does not contain substances that are considered substances meeting the criteria for inclusion in annex XIV (List of Substances Subject to Authorisation) as laid down in Article 57 and article 59 of REACH (EC) 1907/2006.

#### **Regulation (EC) No 1907/2006 (REACH) Annex XVII: RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, MIXTURES AND ARTICLES**

The product contains following substance(s) that are considered being subject to REACH regulation (EC) 1907/2006 annex XVII.

| No | Substance name                            | CAS no.   | EC no.    | No     |
|----|---|-----------|-----------|--------|
| 1  | chromium                                  | 7440-47-3 | 231-157-5 | 75     |
| 2  | copper                                    | 7440-50-8 | 231-159-6 | 75     |
| 3  | nickel powder; [particle diameter < 1 mm] | 7440-02-0 | 231-111-4 | 27, 75 |
| 4  | sulfur                                    | 7704-34-9 | 231-722-6 | 75     |

#### **Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances**

This product is not subject to Part 1 or 2 of Annex I.

#### **Other regulations**

Adhere to the national sanitary and occupational safety regulations when using this product.

### 15.2 Chemical safety assessment

A chemical safety assessment has not been carried out for this mixture.

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## SECTION 16: Other information

**Sources of key data used to compile the data sheet:**

Regulation (EC) No 1907/2006 (REACH), 1272/2008 (CLP) as amended in each case.

Directives 2000/39/EC, 2006/15/EC, 2009/161/EU, (EU) 2017/164.

National Threshold Limit Values of the corresponding countries as amended in each case.

Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.

The data sources used to determine physical, toxic and ecotoxic data, are indicated directly in the corresponding section.

**Full text of the H- and EUH- phrases drawn up in sections 2 and 3 (provided not already drawn up in these sections)**

H400

Very toxic to aquatic life.

H411

Toxic to aquatic life with long lasting effects.